

CONCORD VIDEO TAPE RECORDING SYSTEM

**A professional
electronic recording system
for simultaneous video
and audio recording
with instant replay**



Concord Video Tape Recording System

The Concord Video Tape Recording System was designed to meet the need for a moderate-cost, quality video tape recording system with instant replay of picture and sound.

Concord's Video Tape System represents a major technological achievement with broad applications for teaching, education, training, and communications.

The availability of the Concord Video Tape System makes practical, for the first time, new techniques in teaching, training, and communications which can result in important widespread gains in human technical skills and knowledge.

Features

- Recording and instant replay of video picture and audio sound
- Designed for continuous duty commercial applications
- Convenient, easy pushbutton operation
- Compact portable unit
- Solid-state electronics
- Precision, rugged and reliable tape transport mechanism
- Erasure and reuse of tape
- Excellent picture quality
- Advance-design, long-life video heads—up to 1000 hours of operation
- Built-in head-cleaning system
- Monitoring of video picture and audio sound while recording
- Accurate setting of video record levels, resulting in superior-quality recordings
- Play-back through any standard television receiver—without internal connections
- Recording from television camera or broadcast television program.

The Concord Video Tape System

The Concord Video Tape System is composed of three basic instruments: the VTR-600 Video Tape Recorder, the MR-600 Monitor Receiver, the MTC-15 Television Camera. All three instruments are solid-state units designed for maximum reliability in commercial applications.

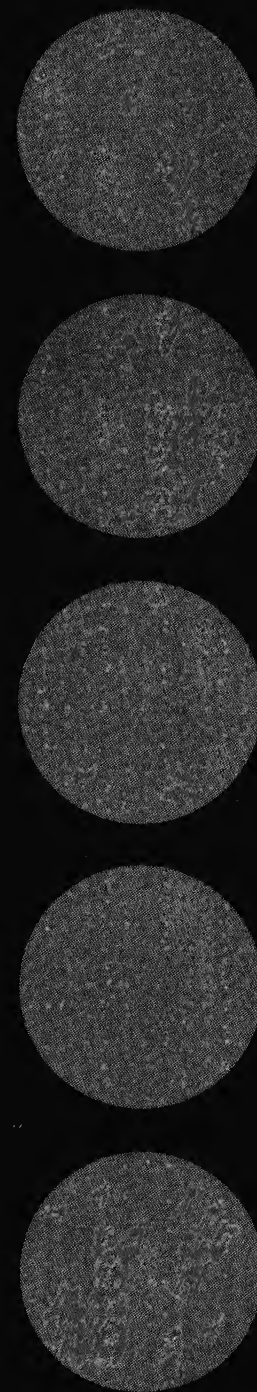
All-Concord System

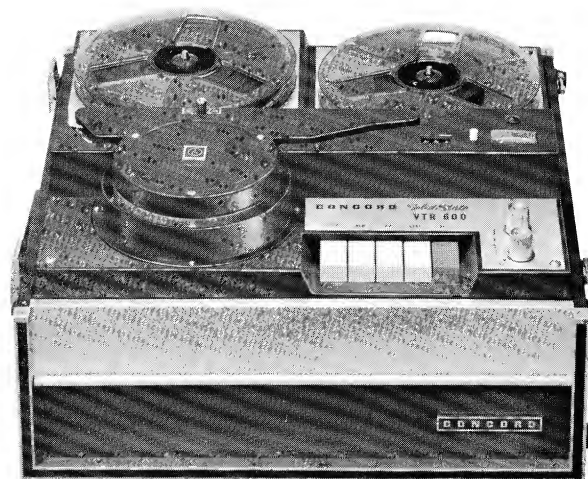
To ensure quality, reliability, and ultimate performance, all three instruments—the recorder, camera, and monitor—are manufactured at Concord's factory to Concord's rigid quality control standards.

Quality Components

To further assure quality and reliability of the Concord Video Tape Recording System, Concord-manufactured components are used throughout, including: the cathode ray tubes in both monitor and camera, the video and audio recording heads, the transistors, diodes, resistors, condensers, motors, and transformers.

Head life up to 1000 hours is obtained on Concord's VTR-600 as a result of advanced engineering and manufacturing techniques for video heads.





The Concord VTR-600 Video Tape Recorder

The VTR-600 was designed to record and reproduce optimum picture and sound quality in an easy-to-operate, compact portable instrument, with reliability suitable for commercial and industrial applications. The rotating-head, helical-scan recording system, using $\frac{1}{2}$ inch width video tape, was chosen to provide superior picture quality with reasonable tape economy and recording time. The operating speed of 12 ips provides superior picture definition (greater video band width), superior signal-to-noise ratio, and ensures greater interchangeability of video tapes from one recorder to another. Recording time is 40 minutes on a 7" reel of video tape.

Ease of Operation

A major consideration is the design of the VTR-600.

Pushbuttons for all operation functions make the VTR-600 as easy to operate as Concord's audio recorders. Superior recordings are ensured with Concord's video monitoring system, which enables the operator to see the quality of the recorded picture on the monitor before recording. Audio record levels can be set in a similar manner.

Portability

The VTR-600 was designed to be versatile. It is compact and easily carried for operation anywhere, indoors or outdoors. Operation in motor vehicles, helicopters, or conventional aircraft is easily accomplished using a solid-state inverter available for that purpose.

Closed-Circuit Television System Application

The VTR-600 was designed for recording or playback through most existing closed-circuit television systems.

Playback Through Standard Television Receivers

The VTR-600 is equipped with a video output jack for attaching the Concord RF Converter. This permits playback of video tapes through any standard television receiver without the necessity of internal connections. The video output is converted to radio frequency, and both sound and picture are obtained on the standard television receiver by a connection to its antenna input terminals. A convenient junction box is provided with a switch to permit operation of the receiver from standard broadcast or from the video tape recorder.

Live Recording

Live video recordings are made using Concord's MTC-15 Closed-Circuit Television Camera. Audio and video are recorded simultaneously.

Recording Television Broadcasts

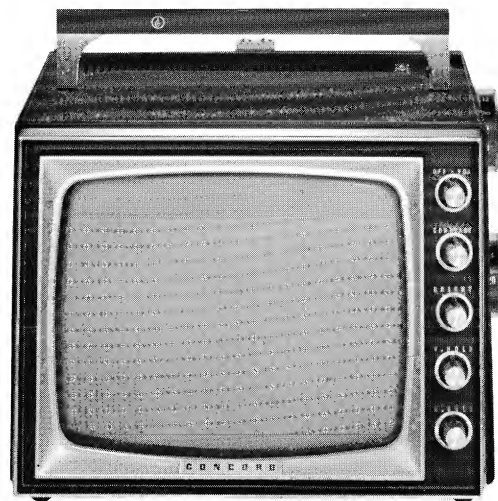
Television broadcasts may be recorded using the Concord MR-600 Monitor Receiver. The same receiver functions as a monitor for making live recordings.

Recording from Film

Video and audio recordings from motion picture film may be made on the VTR-600 by using a film-to-tape converter designed for this application.

Still Pictures

When the tape motion is stopped on the VTR-600, the frame at which it was stopped can be viewed as a still picture for examining a particular selected portion of the motion sequence. The tape can be advanced to select any desired frame as a still frame.



Video Monitor Model MR-600

The MR-600 is a solid-state high-sensitivity instrument designed for use with the VTR-600 Video Recorder. A single cable provides video input and output between recorder and monitor. The monitor also operates as a television receiver for both VHF and UHF reception.

The MR-600 functions as an input source for the recorder for television broadcast and provides instantaneous playback of recordings made on the VTR without the necessity for additional switching. The picture on the monitor may be viewed while recording television broadcast or while making live recordings using the MTC-15 Television Camera.

The MR-600 is completely solid-state, compact, and portable. It has provisions for connection of an external antenna system for operation in areas of low signal strength.



Television Camera Model MTC-15

The solid-state MTC-15 Television Camera is designed for use with the Concord VTR-600 Video Recorder and also operates as a camera for any closed-circuit television application. It contains both video and RF outputs and has a newly designed all-electronic automatic light-adjustment system for operation under varying light conditions. The camera may be tripod-mounted and is furnished with a standard lens. A variety of lenses, including a zoom lens, is available for specific applications.

From Advertising to Zoology, Concord's VTR System has Unlimited Applications.

Schools

Classes can be shown prerecorded programs from commercial and educational TV stations. This up-to-date educational material may be kept in a permanent file for future use. Lectures of important visitors can be taped for future playback. Students of law, medicine, and dentistry can more easily learn professional techniques by immediate observation of their own performance on video tape. Video tapes can be made and observed immediately to facilitate learning and improvement in drama, art, language, science, remedial speech, and athletics.

Manufacturing

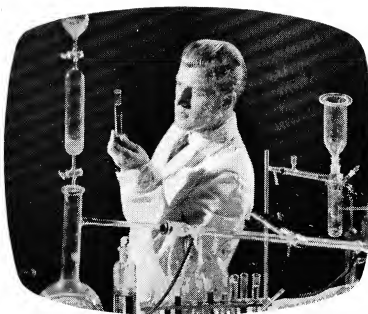
Employee training, engineering, product design and development, methods engineering, quality control, security.

Hospitals

Training of doctors and nurses. Permanent or temporary record of intricate operations and other procedures. Analysis and treatment of psychiatric patients.

Business

Sales training: prerecorded lectures and demonstrations of new products can be sent to sales managers in distant cities. Salesmen learn product





advantages and sales techniques by observation of video tape. *Product presentations* to customers may be made with the video tape recorder. Video tapes are made easily and quickly—without the high cost of making training films.

Performing Arts, Advertising

Actors quickly learn their lines and polish their performances. Directors reduce film costs by using prior video tape run-through. Advertising agencies develop and polish TV commercials without incurring the time-cost factors of film. Advertising agencies replace static story-board presentations to clients with inexpensive, lifelike video tape of proposed commercials.

Sports

The instant replay feature makes the Concord Video Tape Recording System indispensable for coaching any form of athletics. It represents a major breakthrough in coaching and athletic training for all sports and is being widely used for this purpose.

Security

Gives police an immediate sound picture of line-ups, traffic flow, and criminals or trespassers in banks, industrial plants, stores, and apartment buildings. Also important for training fire and law enforcement personnel.

Concord VTR-600 Recording System Specifications

Concord Recorder VTR-600

Recording system: Helical scan dual rotating heads ■ Tape width: $\frac{1}{2}$ " video tape ■ Tape speed: 12" per second ■ Reel size: 7" diameter ■ Recording time: 40 minutes 2400'; 60 minutes 3600' ■ Video Input: 1.0V p-p, 75 ohms unbalanced ■ Video Output: 1.0V p-p, 75 ohms unbalanced ■ Resolution: Approx. 250 lines ■ Audio response: 50 to 12,000 cycles ■ Power consumption: 80 watts ■ Weight: 52 lbs. ■ Dimensions: 10" H x 16 $\frac{1}{2}$ " W x 16 $\frac{1}{2}$ " D.

Concord TV Monitor MR-600

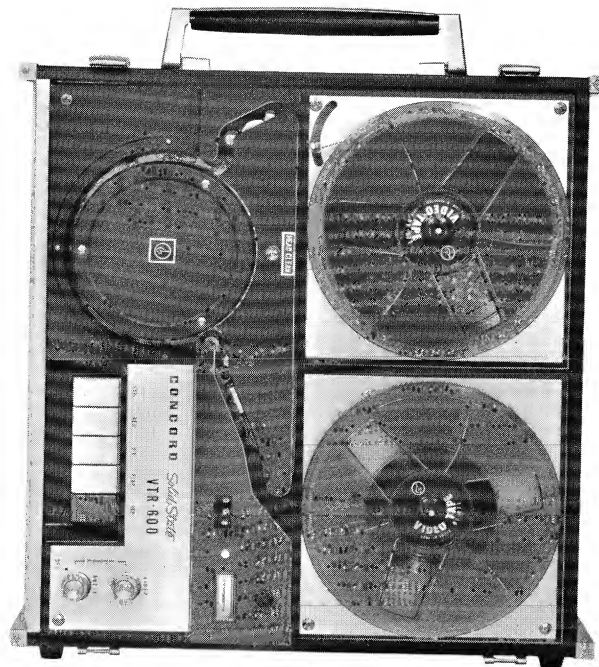
Standard scan 525 lines ■ 30 Frames/second ■ 9" Picture tube ■ Video output 1 volt p/p 75 ohms ■ Power consumption 26W ■ Dimensions: 8 $\frac{1}{2}$ " H x 10" W x 9" D.

Concord MTC-15 Camera Features

Adjusts automatically to changing light conditions ■ Solid-state electronics ■ Low power consumption ■ High sensitivity vidicon tube ■ Simultaneous RF and video output ■ Adjusts automatically to change in line voltage ■ Complete with sweep and sync circuits for CCTV use.

Concord MTC-15 Camera Specifications

30 frames/second ■ Random interlace ■ Video resolution: 550 lines ■ Video output: 1.4 volt p/p 75 ohms ■ Power consumption: 5 watts ■ Dimensions: 5" H x 3" W x 9 $\frac{1}{2}$ " D ■ Weight: 6 lbs.



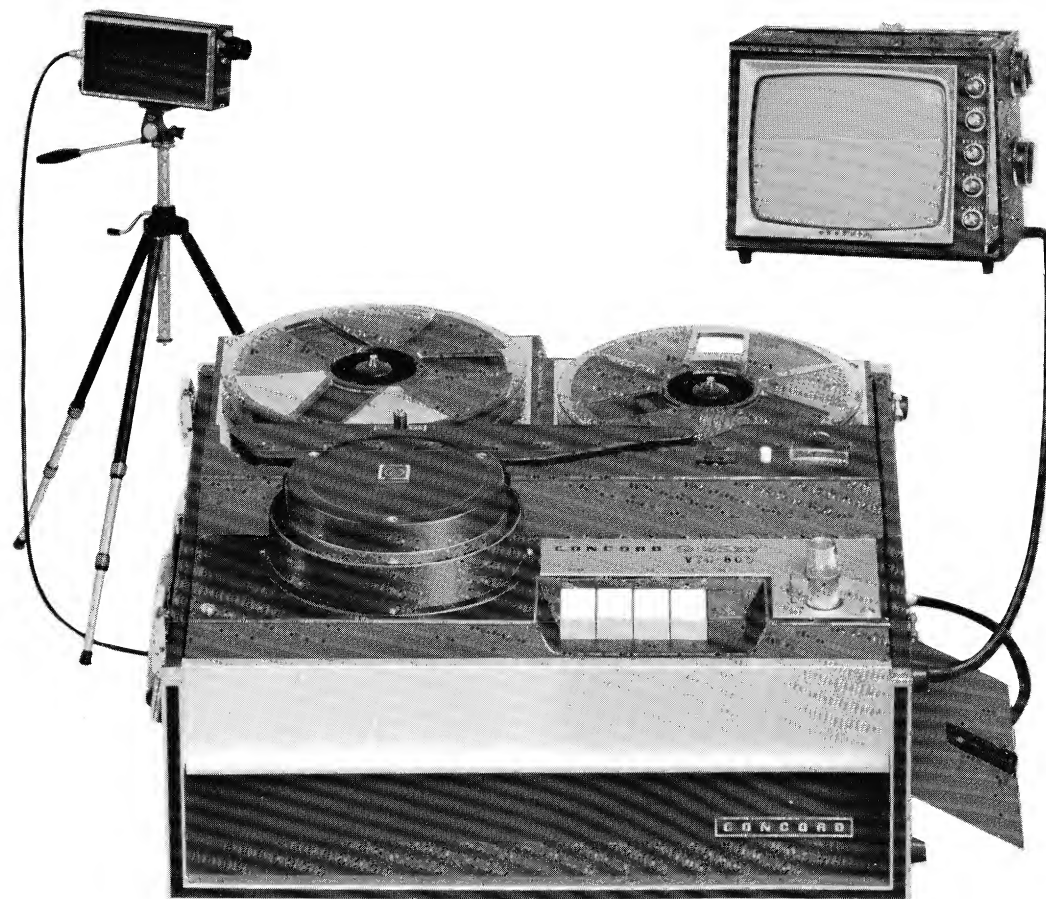


Furnished Accessories

1. Empty Takeup Reel
2. A-C Power Cord
3. PC-600 Control Cable
4. Splicing Tape

Optional Equipment and Accessories

1. CONCORD MTC-15 Video/RF Closed-Circuit Television Camera with lens
2. Special lenses for above
3. MR-600 Monitor/Receiver
4. D-600 High Impedance Dynamic Microphone
5. RFC-5 and RFC-6 Audio/Video RF Converter with switch boxes
6. VO-600 Video Output Adapter
7. VT-1 2400' Video Tape on 7-inch reel (40 minutes)
8. VT-2 1200' Video Tape on 5-inch reel (20 minutes)
9. WX-8510 Wireless Microphone System
10. PC-600-X Extension Cable for Recorder-Monitor connection
11. TPR-16 Tripod



Lit #160A
(GK)

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